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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Suite 108
801 North Pitt Street
Alexandria, VA 22314

EXAMINER

ANYA, CHARLES E

ART UNIT	PAPER NUMBER
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2194

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/695,953	Applicant(s) CODE ET AL.	
	Examiner Charles E. Anya	Art Unit 2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3/ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18,21,22 and 27-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 and 29 is/are allowed.
- 6) ☒ Claim(s) 18,22 and 27-28, 30-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 18, 21, 22 and 27-32 are pending in this application.

Claim Objections

2. Minor informalities:

Page 4 of the instant claims appears to include typographical error. Specifically, "Claims 13-26 (Cancelled)" seems to indicate the claims 13-26 are cancelled, however, claims 13-26 are **not all** cancelled.

For the purpose of this office action the Examiner would assume Applicant meant claims 23-26 are cancelled rather than that claims 13-26 are cancelled and appropriate correction is required.

Claim Rejections - 35 USC § 101

3. **Claims 18, 22 and 31 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

Claims 18, 22 and 31 are respectively directed to "software-readable medium". It is not clear whether the "software-readable medium" is software or hardware. If the "software-readable medium" is not hardware then it is software per se because the body of the claims comprises instructions which are software and as result not a process, a machine, a manufacture or a composition of matter, and not directed to statutory subject matter. On the other hand if the "software-readable medium" is hardware it is advisably

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that Applicant amends the applicable claims to clearly indicate the same (i.e. including processor for executing the instructions stored in the software –readable medium).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following terms lack antecedent basis:

- i. “the processor” on line 8 of claim 18;

For the purpose of this office action the Examiner would replace “the processor further comprises” with “the computer readable medium further contain”.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 18, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pub. No. 2003/0037091 A1 issued to Nishimura et al. in view of Derwent Acc. No. 2000-079595 issued to Derwent Information Ltd. (Hereinafter referred to as Derwent).

6. As to claim 18, Nishimura teaches a computer readable medium containing instructions for scheduling tasks within a computing device, comprising:

a) instructions for accessing a multi-level work queue (“...main ready queue...”) of a plurality of waiting tasks awaiting scheduling (Step 701 page 10 paragraph 0146, page 16 paragraph 0242); said waiting tasks being ordered in said multi-level work queue according to an associated priority (“...priority level...” page 7 paragraph 0092);
b) instructions for attempting to locate at least one selected task from within the work queue (Step 702 page 10 paragraph 0145, page 16, paragraph 0242), and wherein the computer readable medium further contain instructions for selecting as the first task a waiting task for which no other waiting task has a higher priority (Priority Level 203 page 8 paragraph 0110); and

d) instructions for combining the at least one selected task with the first task to form a combined task and scheduling the combined task, in the event that at least one selected task is located (“...“execution of a task group”...” page 8 paragraph 0110, Program Execution Address 207 page 8 paragraph 0115, page 10 paragraph 0152).

Nishimura is silent with reference to b) instructions for attempting to locate at least one selected task from within the work queue which is capable of being executed

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simultaneously with the first task and c) said instructions for attempting to locate at least one selected task comprising instructions for considering only waiting tasks having a priority equal to that of the first task.

Derwent teaches b) instructions for executing tasks simultaneously (“...simultaneously...” page 1 lines 5 – 8) and c) instructions for considering only waiting tasks having a priority equal to that of the first task (“...thread of same priority...” page 1 lines 5 – 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Nishimura with teaching of Derwent because the teaching of Derwent would improve the system of Nishimura by allowing for optimal use of computer resources and deadlock avoidance.

7. As to claims 27 and 28, see the rejection of claim 18 above.

8. Claims 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pub. No. 2002/0156669 A1 issued to Verhaegh et al. in view of U.S. Pat. No. 6,625,750 B1 issued to Duso et al.

9. As to claim 30, Verhaegh teaches a processor for scheduling a first task within a computing device, comprising:

b) instructions for determining whether the computing device has sufficient resources to execute the first task (step b page 1 paragraphs 0010/0013, Ordering

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Module 202 page 6 paragraphs 0084-0086) and for determining whether the first task is time sensitive (steps b-d page 1 paragraphs 0010, Ordering Module 202 page 6 paragraphs 0084-0086), in the event that the computing device does not have sufficient resources to execute the first task (“...determining whether any violation of the constraints has occurred...” page 2 paragraph 0022, Scheduler 100 page 6 paragraph 0087); and

c) instructions for attempting to schedule a second task before attempting to schedule the first task, in the event that the computing device does not have sufficient resources to execute the first task and that the first task is not time sensitive (“...determining whether any violation of the constraints has occurred...” page 2 paragraphs 0022/0023, “...re-order tasks...” page 2 paragraph 0025, Scheduler 100 page 6 paragraph 0087).

Verhaegh is silent with reference to a) instructions for accessing a work queue of a plurality of waiting tasks waiting scheduling.

Duso teaches a) instructions for accessing a work queue of a plurality of waiting tasks waiting scheduling (Ready Queue 84 Col. 13 Ln. 14 – 39).

It would have been obvious to one of ordinary skill in the art the time the invention was made to modify the system of Verhaegh with teaching of Duso because the teaching of Duso would improve the system of Verhaegh by providing a data structure in which entities in the data structure are orderly kept such that the principal operations on the data structure are the optimal addition of entities to the rear position and removal of entities from the front position.

10. As to claim 32, see the rejection of claim 30 above.

11. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,789,067 B1 issued to Liebenow in view of U.S. Pat. No. 7,203,943 B2 issued to Shaffer.

12. As to claim 31, Liebenow teaches a software-readable medium comprising instructions for scheduling a first task within a computing device, comprising:

a) instructions for accessing a work queue of a plurality of waiting tasks awaiting scheduling (“...interrogating a database...” Col. 2 Ln. 7 – 13) and for determining whether the first task is time sensitive (“...time requirement...” Col. 2 Ln. 7 – 13), in the event that the computing device does not have sufficient resources to execute the first task;

b) instructions for determining whether the computing device has sufficient resources to execute the first task (“...resource requirement...” Col. 3 Ln. 29 – 32); and

c) instructions for combining the at least one selected task with the first task to form a combined task and scheduling the combined task, in the event that the computing device has sufficient resources to execute the first task and that at least one selected task is located (“...combining the task(s)...” Col. 2 Ln. 1 – 5, Step 104 Col. 3 Ln. 34 – 37).

Liebenow is silent with reference to rejecting the first task, in the event that the computing device does not have sufficient resources to execute the first task and that the first task is time sensitive.

Shaffer teaches rejecting the first task, in the event that the computing device does not have sufficient resources to execute the first task (“...reject the task based on the resource’s capabilities...” Col. 2 Ln. 32 – 37) and that the first task is time sensitive (“If no...reject...” Col. 7 Ln. 50 – 59).

It would have been obvious to one of ordinary skill in the art the time the invention was made to modify the system of Liebenow with teaching of Shaffer because the teaching of Shaffer would improve the system of Liebenow by providing capability of dynamically updating or adjusting computer resources (Shaffer Col. 2 Ln. 50 – 56).

Allowable Subject Matter

13. Claims 21, 22 and 29 are allowed (NOTE: allowance of claim 22 is subject to Applicant addressing 101 rejection).

Response to Arguments

Applicant's arguments with respect to claims 18, 21, 22 and 27-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E. Anya whose telephone number is 571-272-3757. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195

cea.